

## INTERNATIONALIZATION OF THE BUTTER MARKET

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### Abstract

*The aim of the paper was to define geographic scope of internationalization the butter market based on Elzinga–Hogarty method.. Using secondary data (Food and Agriculture Organization, Institute of Agricultural and Food Economics) we find that the butter market is international in the scope, and this scope is evolving from country to semi-global and next to regional. Butter market consists only of 11th EU countries in 2014. Such market has production of 3361 thousand tones, consumption of 3292 thousand tones and export and import at the level of 317 thousand tones, 238 thousand tones, respectively.*

**Keywords:** delineation of geographic scope, internationalization, butter market, Elzinga–Hogarty method.

**JEL codes:** D4, F15, K21, L66.

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### Introduction

Internationalisation is a complex phenomenon which can be analysed at various levels and in various dimensions: economic, scientific, political and legal, socio-cultural (Müller, 2003), and taking into account different perspectives (Daszkiewicz and Wach, 2012). As part of economic sciences, internationalisation can be considered at three main levels: on a macro scale (internationalisation of economies), meso scale (internationalisation of sectors/markets) and micro scale (internationalisation of enterprises) (Witek-Hajduk, 2010). The literature emphasises that internationalisation at all levels is a function of the motives and inclinations of enterprises for foreign expansion, including investing in development outside the home country, as well as for cooperation with foreign partners in other forms (Oczkowska, 2007). The majority of

contemporary publications and scientific research carried out focused on the micro level, i.e. the internationalisation of enterprises, while there are only a few studies regarding the analysis of the internationalisation of sectors.

Despite the multitude of theories and models explaining internationalisation, there is no approach which would comprehensively explain this phenomenon. On the basis of the literature review, several takes on defining internationalisation emphasising a different element can be distinguished.

In the first group of definitions, internationalisation is perceived as a sequential process, occurring in stages, in which an enterprise moves from activity on the domestic market to operations on foreign markets (Daszkiewicz, 2017). The gradual increase in such extension of operations is often explained by the gradual acquisition of knowledge about foreign markets. This approach to internationalisation is presented, e.g. by Swedish scientists, creators of the Uppsala model – Johanson and Vahlne (1977), as well as Welch and Luostarinen (1988), Melin (1992), Przybylska (2005) and Fonfara (2009).

In the second group of definitions, the most important factor of internationalisation are business connections (networks) between enterprises on the international market. This approach can be seen, for instance, in the definitions of: Johanson and Mattsson (1993), Johanson and Vahlne (2009), Nowakowski (2005) and Pierścioneck (2011).

The third approach to internationalisation connects the internationalisation process with the involvement of resources of the enterprise/sector (including capital and human resources) in the activity abroad – this approach is supported by the definitions of Andersen (1997), Ahokangas (1998), Dulinić (2004).

Another approach equates internationalisation with various forms of internationalisation of an enterprise. The literature presents active and passive forms of entry into foreign markets (Dulinić 2004). Active internationalisation is one associated with foreign expansion of the enterprise. In turn, passive internationalisation occurs when enterprises build connections with foreign companies without operating outside the home country. Forms of internationalisation include: export, import, sale of licences, franchising, leasing, foreign production/commercial branch, joint venture and strategic alliance with a foreign partner, etc.

Some researchers treat internationalisation as part of a strategic process where decisions should be made regarding the selection of target markets, forms of entering foreign markets, time and scale of the entry, as well as the scope of resources involved (Andersen and Buvik, 2002; Hill, 2013).

Many researchers also define the internationalisation process as an extension of the geographic scope of markets, products and forms of activity. An enterprise/sector covers new geographical areas with its activity, changing from the national scope through international to global (Rymarczyk, 2004; Dulieć, 2004; Strzyżewska, 2005; Gorynia, 2007).

According to the sequential theories of internationalisation, the measurement of internationalisation at the market/sector level should take into account two dimensions: intensity and geographic scope (Hollensen, 2004). The intensity of

internationalisation determines the degree of involvement of a given sector in the relations with foreign markets within various forms (inter alia, trade, contractual and investment) (Daszkiewicz and Wach, 2013). In turn, the second dimension concerns determining the geographic scope of expansion of a given sector as part of various actions.

The internationalisation process can be analysed using quantitative and qualitative methods. The quantitative methods of measuring internationalisation include, above all, indicators dedicated to measuring the intensity and/or spatial aspects of internationalisation. Mainly three indicators are used within this group: the Transnationality Index – TNI (UNCTAD, 1995), the TASI (Ietto-Gillies, 1998) and the degree of internationalisation – DOI (Sullivan, 1994). However, these are indicators dedicated to the assessment of internationalisation at the level of enterprises, not markets. In turn, methods which can be used to determine the spatial dimension of internationalisation at the sector level are those based on the movement of goods, e.g. the Elzinga–Hogarty method (1973, 1978), the Sleuwaegen (1994) concept and the concept of Makhija, Kim and Williamson (1997). The qualitative methods of measuring the foreign expansion of sectors include, among others, the concept of Porter (1998), Yip (2004), Lassere (2003), Stonehous, Hamill, Campbell and Purdie (2001) as well as Pietrzak (2014).

Studies of internationalisation within the framework of this are carried out at the market level. It should be noted that two concepts related to defining the market emerge from the literature on the subject – one concerns the supply side and the other the demand side (Gorynia, Jankowska and Maślak, 2000; Jankowska, 2005; Gorynia and Łaźniewska, 2010; Pietrzak 2014). There are also approaches which take into account both the demand and supply side of the market, as well as emphasising the importance of the third dimension – spatial (geographical area, territory, geographic scope) as a complement to the market definition (Wrzosek, 1998; Kotler, 2005; Stanton, 1981; Pietrzak, 2014). As part of this research, it was assumed that the market is defined taking into account the following three dimensions: 1. supply, i.e. sellers offering products with a high rate of substitution, 2. demand, i.e. buyers with specific needs, 3. geographical area.

The problem of defining the geographic scope of the butter market was raised in the works of Roman (2016, 2017), Pietrzak and Roman (2018). However, these studies concern only 2013 and 2015, and it is not possible to indicate the directions of changes in the geographical expansion of the market in butter on their basis, which in turn is important for identifying the course of the internationalisation process. Therefore, the objective of this article is to determine, using the Elzinga–Hogarty method, changes in the geographic scope of internationalisation of the butter market in Poland in 1990-2014. Taking 1990 as the beginning of the analysis was related to the beginning of major changes in the dairy sector resulting from the system change in Poland. The analysis ends on 2014 due to the fact that the most up-to-date data in the databases of the Food and Agriculture Organisation of the United Nations (FAO) regarding production of butter at the time of calculations was available for this year.

### Research methodology

The Elzinga–Hogarty method was used to determine the spatial dimension of internationalisation of the butter market. Using the movements of goods, the Elzinga–Hogarty method reflects shifts in demand and supply between areas. It is based on the verification of two tests – the LOFI (Little-Out-From-Inside) and the LIFO (Little-In-From-Outside) (Elzinga and Hogarty, 1973; Elzinga and Hogarty, 1978; Elzinga, 1981). The calculation method for these tests is shown in formulas 1 and 2. Positive verification of the LOFI test means that a given geographic area can be considered a single market, as companies located on this market have only a small part of their turnover outside its area. In turn, positive verification of the LIFO test means that the analysed market is a separate geographic market, and it occurs when only a small part of the product consumed on a given geographic market is imported from an external area.

$$LOFI = \left[ \frac{\text{production} - \text{export}}{\text{production}} \right] \times 100\% \quad (1)$$

$$LIFO = \left[ \frac{\text{consumption} - \text{import}}{\text{consumption}} \right] \times 100\% \quad (2)$$

Therefore, the geographic market is defined as the smallest area where the percentage of deliveries of a given product – both from the outside and targeted at the outside – is small. The authors of the method define given market as strongly (clearly) separated when the LOFI and LIFO values are simultaneously at least 90%. Therefore, it was assumed that the LOFI and LIFO tests must be met at the level of 90% (“strong” market). If at least one of the tests is below the assumed criterion, the area of a given market should be increased by “adding” markets (countries) until reaching the indicated percent thresholds for both tests, at the same time (Roman, 2016; Pietrzak, Roman and Mucha, 2016a,b). The butter market in Poland was the starting point for the analysis. This market concerned cows’ milk products covered by the customs nomenclature code 040510, not including dairy spreads. Data of the FAO and the Institute of Agricultural and Food Economics – National Research Institute (IERiGŻ-PIB) was the source of research materials.

### Research results

Table 1 presents the results of the LOFI and LIFO tests for the market in butter with reference to 54 countries for selected years from the period of 1990-2014. The analysis carried out indicates that the maximal domestic scope of the butter market in the analysed years was demonstrated by countries from North America (the USA and partly Canada) and some countries from Asia (Korea, Turkey, Japan), in Europe such a scope was identified only in Switzerland. South America, Colombia and since 2005 also Brazil were characterised by maximal domestic scope

of the butter market. The lack of detailed data at a lower level than domestic makes it impossible to verify whether maybe in one of the above-mentioned countries the butter market had, for example, local character.

In the case of the butter market in Poland, it was observed that in 1990, 1995 and 2000 it was a market of a domestic scope, and after 2005 the geographic scope of the market was wider than domestic (Table 1). This was influenced by Poland's accession to the EU and greater access to the foreign market and as a result in 2005 about 20% of the butter produced was sold outside the domestic market, while in 2000 only 2%.

Based on the secondary data of IERiGŻ-PIB, the analysis of the scope of the butter market in Poland in 1991-2014 was carried out. Table 2 presents the results of partial LOFI and LIFO tests for Poland together with their interpretation. "YES" means that both tests simultaneously indicate the result at least at the level of 90%, and "NO" that the result of at least one of the tests is below the required threshold allowing to recognise the area of Poland as a geographic market for a given product within the meaning of the Elzinga–Hogarty method. It was found that from 1994 to 2003 (excluding 2001), the butter market in Poland was a separate geographic market with a domestic scope. In 2004-2014, the LOFI test was not met which means that companies operating on the butter market in Poland made over 10% of their turnover outside this market. And since 2010 the LIFO test also has not been met which means that more than 10% of butter consumed in Poland was imported from outside.

In connection with the above, taking the butter market in Poland as a starting point, its geographic scope in 2005 and 2014 was determined based on the Elzinga–Hogarty method. The market in butter was increased by "adding" successively the country with which the largest trade was conducted until reaching 90% in both LOFI and LIFO tests. Tables 3 and 4 present a step-by-step order of adding countries forming in total the butter market in 2005 and 2014, defined according to the Elzinga–Hogarty method.

Table 1

*The LIFO and LOFI tests related to the butter market in selected countries of the world*

Country	1990		1995		2000		2005		2010		2014	
	LOFI	LIFO										
EUROPE												
Austria	97	99	95	94	92	85	92	67	93	68	94	69
Belgium	-15	-18	-43	-52	6	6	-21	-28	-45	-57	-249	-375
Belarus	b.d.	b.d.	76	98	74	100	40	98	39	99	48	97
Bulgaria	100	82	96	72	100	53	-82	-134	-10	-3	-5	-1
Croatia	b.d.	b.d.	89	93	70	66	44	54	74	76	52	45
Czech Republic	90	97	63	100	65	98	76	86	78	61	74	45
Denmark	46	82	11	21	12	19	-65	-126	-65	-84	20	32
Estonia	b.d.	b.d.	15	35	38	67	38	96	28	71	43	66
Finland	41	100	64	98	43	99	35	98	43	93	53	93
France	82	86	81	73	84	72	82	72	80	66	83	65
Greece	97	38	97	33	99	41	98	23	84	8	87	20
Spain	93	89	-3	-14	52	64	20	40	-1	-2	64	54
Netherlands	-10	-23	-38	-176	5	7	-53	10	-36	11	-6	-12
Ireland	54	98	3	67	18	85	18	89	1	8	13	78
Israel	b.d.	b.d.	b.d.	b.d.	b.d.	b.d.	65	100	74	100	100	100
Lithuania	b.d.	b.d.	38	99	40	91	48	95	65	86	39	70
Latvia	b.d.	b.d.	83	100	64	81	52	88	48	60	43	59
Germany	79	83	86	76	88	74	82	75	72	67	70	73
Norway	42	99	73	100	76	98	88	97	86	99	100	97
Poland	94	99	92	100	98	91	79	97	85	88	80	87
Portugal	67	91	65	91	69	80	63	63	21	35	52	62
Russia	b.d.	b.d.	99	63	98	83	99	75	99	72	98	64
Romania	100	75	99	94	99	85	98	68	95	60	97	55
Slovakia	b.d.	b.d.	97	90	84	96	84	68	65	30	32	15
Slovenia	b.d.	b.d.	77	100	38	74	62	88	85	81	93	61
Switzerland	100	90	100	94	100	83	100	95	91	99	92	100
Sweden	55	100	60	100	67	100	66	97	53	62	95	76
Ukraine	b.d.	b.d.	65	100	77	99	80	100	99	95	90	94
Hungary	69	100	82	99	94	95	79	68	67	34	73	32
Great Britain	72	47	61	43	66	41	65	40	78	47	65	47
Italy	88	67	87	71	91	75	86	68	75	52	97	75
ASIA												
China	97	77	87	70	93	72	97	70	96	72	97	52
Iran	100	74	100	84	100	87	100	81	99	74	100	78
Israel	86	100	99	86	100	88	100	94	100	79	100	85
Japan	100	92	100	98	100	100	100	94	100	95	100	84
Kazakhstan	b.d.	b.d.	90	89	99	36	98	72	100	65	99	67
Korea	100	100	100	99	100	98	100	92	100	90	100	93
Turkey	100	97	100	97	100	96	100	95	100	92	100	89
AFRICA												
Egypt	100	46	100	40	100	43	100	56	99	41	100	41
Marocco	100	38	100	36	100	38	100	36	100	52	100	53
Tunisia	100	28	99	56	98	71	100	61	100	98	100	100
NORTH AMERICA												
Canada	96	100	94	99	92	84	77	74	92	92	99	91
USA	91	100	95	100	100	97	99	94	93	98	93	98

cont. Table 1

CENTRAL AMERICA												
Mexico	100	58	99	60	100	31	95	26	100	34	71	33
Honduras	100	97	99	81	76	78	87	77	84	89	80	97
SOUTH AMERICA												
Argentina	83	100	87	98	89	100	97	100	79	96	80	99
Bolivia	b.d.	73	b.d.	98	96	89	41	46	12	74	41	90
Brazil	100	86	100	80	100	87	98	100	95	98	96	99
Chile	100	83	100	75	98	83	94	84	85	94	94	79
Columbia	100	100	100	100	100	100	98	100	99	100	99	100
Uruguay	5	100	59	99	67	100	29	100	39	100	33	94
Venezuela	98	88	98	46	100	63	98	81	100	37	99	34
OCEANIA												
Australia	69	99	39	95	37	86	54	91	56	81	61	75
Noew Zeland	16	100	12	100	-4	105	16	96	-6	103	-14	101

Note: the negative value of the LIFO and LOFI test means that the export/import volume was higher than the production/consumption of the dairy product.

Grey colour of a field means that in a given year the LIFO or LOFI test was met at the level of  $\geq 90\%$ , while a black field means that in a given year both tests were met at the level of  $\geq 90\%$ .

Consumption was calculated in a balance manner as production + import - export

Source: own calculations based on the FAO data.

Table 2

*The LIFO and LOFI tests for the market in butter in Poland in 1991-2014*

Year	Production (thousand tonnes)	Export (thousand tonnes)	Import (thousand tonnes)	Consumption (thousand tonnes)	LOFI test	LIFO test	Tests $\geq 90\%$
1991	191.2	7.5	40.0	295.5	96	86	NO
1992	153.8	1.3	38.0	220.4	99	83	NO
1993	146.4	18.5	19.7	206.8	87	90	NO
1994	119.8	8.0	3.0	198.1	93	98	YES
1995	122.9	9.5	0.3	129.2	92	100	YES
1996	131.7	13.1	0.4	143.2	90	100	YES
1997	139.0	3.0	4.9	152.6	98	97	YES
1998	146.0	5.0	1.0	157.3	97	99	YES
1999	134.6	2.7	7.6	162.0	98	95	YES
2000	139.1	3.0	12.3	143.4	98	91	YES
2001	154.0	18.6	3.5	152.6	88	98	NO
2002	153.9	11.8	4.6	157.0	92	97	YES
2003	167.0	9.2	5.3	161.4	94	97	YES
2004	177.2	27.6	4.1	152.0	84	97	NO
2005	178.1	36.8	3.6	142.7	79	97	NO
2006	173.3	24.1	4.7	142.6	86	97	NO
2007	181.9	32.1	6.6	138.0	82	95	NO
2008	182.5	30.5	6.7	133.4	83	95	NO
2009	170.2	18.1	9.9	133.4	89	93	NO
2010	177.4	26.9	14.3	124.2	85	88	NO
2011	171.4	34.1	14.4	119.6	80	88	NO
2012	171.6	31.2	12.2	115.0	82	89	NO
2013	172.5	32.5	13.6	114.9	81	88	NO
2014	179.6	35.7	14.9	114.9	80	87	NO

Note: Consumption was calculated as the product of population size and annual consumption of butter *per capita*. Grey colour of a field means that in a given year the LIFO or LOFI test was met at the level of  $\geq 90\%$

Source: own calculations based on data *Rynek Mleka* (1990-2017).

In 2005, the LOFI test for the butter market in Poland was not met at the level of 90% and was lower than the LIFO, which is why the largest recipient of butter, i.e. Germany, was added to Poland (Table 3). After adding Germany, both the LOFI and LIFO tests changed, but they were still not met at the level of 90%. The market created by Poland+Germany conducted the largest trade exchange with the Netherlands, therefore it was added to the analysed market. As the Poland+Germany+the Netherlands market still did not meet the tests, further countries with the largest trade exchange with the analysed market were added until adding Taiwan and obtaining the assumed percent thresholds for the LOFI and LIFO tests.

From the mid-1990s until the accession to the EU, foreign trade in butter was small and characterised by volatility which was mainly determined by low world prices and the lack of subsidisation possibilities. Until this moment, the butter market in Poland, defined according to the Elzinga–Hogarty method, had a domestic scope. After the accession to the EU, the abolition of customs barriers resulted in an increase in butter exports, as a result of which in 2005 the (defined) butter market included Poland and 19 other countries from Europe, Asia, Africa, North America and Oceania (Table 3). The market in butter defined this way represented production at the level of 3361 thousand tonnes and consumption at the level of 3292 thousand tonnes, with import and export amounting to 238 thousand tonnes and 317 thousand tonnes, respectively.<sup>1</sup> The market defined this way had a very large share (around 70%) in global production and consumption, with a share in global export and import of 21% and 17%, respectively.

The butter market defined with the Elzinga–Hogarty method in 2014 included Poland and the following 11 countries: the Czech Republic, Germany, the Netherlands, France, Ireland, Belgium, Great Britain, Italy, Denmark, Spain and Slovakia (Table 4). Countries added to Poland included significant world importers and exporters of butter. Compared to 2005, this market represented a similar volume of trade, production and consumption of butter, but its share in the global market in comparison to 2005 was smaller – 11% in terms of export and import and 36% in terms of production and consumption, respectively. In 2014, the share of the separated butter market in global export and import was 10% and 7%, respectively, which indicates that in terms of movement of goods it was quite a homogeneous, fairly closed whole.

It can be noticed that the structure of the countries forming the butter market has changed. In 2005, the butter market in Poland had to be enlarged by 19 countries from 5 different continents for the LOFI and LIFO tests to be met (Fig. 1), while in 2014 by only 11 countries located in Europe (Fig. 2). Taking into account the analyses carried out, it can be assumed that according to the Elzinga–Hogarty method, until 2004 the butter market in Poland had a domestic scope, and then

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<sup>1</sup> The volume of import and export refers only to import and export outside the defined market area, without the movements of goods between the countries forming the common market defined.

in 2005-2014 it had a transnational character.<sup>2</sup> It can be assumed that in 2005 the market in butter had a semi-global scope, while in 2014 regional scope – there was a concentration of directions of import and export of butter limited to Europe, mainly the EU countries.

Table 3

*The geographic scope of the market in butter for Poland in 2005  
based on the Elzinga–Hogarty method*

Order of adding	Country	Export (thousand tonnes)	Import (thousand tonnes)	Production (thousand tonnes)	Consumption (thousand tonnes)	LOFI test	LIFO test	Tests $\geq 90\%$
1	Poland	38	5	209	176	82.0	97.4	NO
2	+ Germany	111	120	659	668	83.2	82.0	NO
3	+ Netherlands	233	117	774	668	69.9	82.5	NO
4	+ Ireland	304	74	917	697	66.8	89.3	NO
5	+ France	327	159	1344	1186	75.7	86.6	NO
6	+ Belgium	364	168	1457	1270	75.0	86.8	NO
7	+ Italy	327	165	1586	1434	79.4	88.5	NO
8	+ Great Britain	314	235	1716	1647	81.7	85.8	NO
9	+ Denmark	282	181	1761	1670	84.0	89.1	NO
10	+ New Zealand	551	133	2140	1732	74.2	92.3	NO
11	+ Egypt	513	121	2173	1791	76.4	93.2	NO
12	+ Iran	477	127	2349	2010	79.7	93.7	NO
13	+ Russia	444	173	2602	2342	82.9	92.6	NO
14	+ Mexico	413	192	2621	2410	84.2	92.0	NO
15	+ USA	390	203	3232	3055	87.9	93.4	NO
16	+ Saudi Arabia	390	206	3236	3063	88.0	93.3	NO
17	+ Morocco	366	218	3256	3119	88.8	93.0	NO
18	+ Azerbaijan	345	207	3269	3141	89.4	93.4	NO
19	+ Singapore	330	216	3269	3164	89.9	93.2	NO
20	+ Taiwan	317	238	3361	3292	90.6	92.8	YES

Note: the volume of import and export refers only to import and export outside the defined market area, without the movements of goods between the countries forming the common market.

Grey colour of a field means that in a given year the LIFO or LOFI test was met at the level of  $\geq 90\%$ .

Source: own calculations based on the FAO data.

<sup>2</sup> Based on the approach of Luostarinen and Hellman (1993), the following geographic scopes have been distinguished: national sector (no internationalisation or pre-internationalisation, i.e. only passive forms of foreign expansion); regional sector (active forms of foreign expansion to several countries but within one continent); semi-global sector (active forms of foreign expansion to countries located on different continents); global sector (active forms of foreign expansion to countries located on all continents).

Table 4

*Geographic scope of the market in butter for Poland in 2014  
based on the Elzinga–Hogarty method*

Order of adding	Country	Export (thousand tonnes)	Import (thousand tonnes)	Production (thousand tonnes)	Consumption (thousand tonnes)	LOFI test	LIFO test	Tests $\geq 90\%$
1	Poland	34	11	181	158	80.9	92.8	NO
2	+ Czech Republic	34	25	203	194	83.4	87.3	NO
3	+ Germany	149	123	644	618	76.9	80.0	NO
4	+ the Netherlands	228	130	784	687	70.9	81.0	NO
5	+ France	213	222	1190	1199	82.1	81.5	NO
6	+ Ireland	280	150	1356	1226	79.3	87.8	NO
7	+ Belgium	247	106	1386	1246	82.2	91.5	NO
8	+ G. Britain	214	125	1529	1441	86.0	91.3	NO
9	+ Italy	185	126	1630	1571	88.6	92.0	NO
10	+ Spain	173	121	1665	1612	89.6	92.5	NO
11	+ Denmark	174	105	1707	1639	89.8	93.6	NO
12	+ Slovakia	164	103	1714	1653	90.5	93.8	YES

Note: the volume of import and export refers only to import and export outside the defined market area, without the movements of goods between the countries forming the common market.

Grey colour of a field means that in a given year the LIFO or LOFI test was met at the level of  $\geq 90\%$

Source: own calculations based on the FAO data.

Foreign expansion of the butter market (transition from the domestic to supranational scope) was possible, e.g. thanks to the suitability of butter for transport and storage. Butter is included in the group of durable dairy products, as its durability in retail trade is 10-30 days, while storage durability in cold stores reaches even 12 months (Pijanowski and Zmarlicki, 1985; Pietrzak, 2002). It should be mentioned that butter is characterised by low specificity and is manufactured according to a similar technology in the majority of countries. Butter is a mass product and there is little possibility of diversifying it. Therefore, consumer preferences regarding this product may be similar which may push the processes of internationalisation and globalisation. On the other hand, as a result of the ongoing discussion on the harmfulness of animal fat, the demand for this product is decreasing. Thus, the observed changes in geographical directions and the intensity of expansion of this market should be attributed primarily to very high sensitivity of this market to cyclical changes.



Fig. 1. Geographic scope of the market in butter in 1995 and 2000 according to the E-H method (national).

Source: own study.

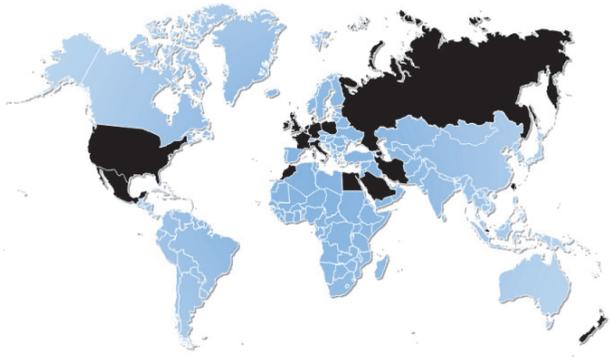


Fig. 2. Geographic scope of the market in butter in 2005 according to the E-H method (semi-global).

Source: own study.

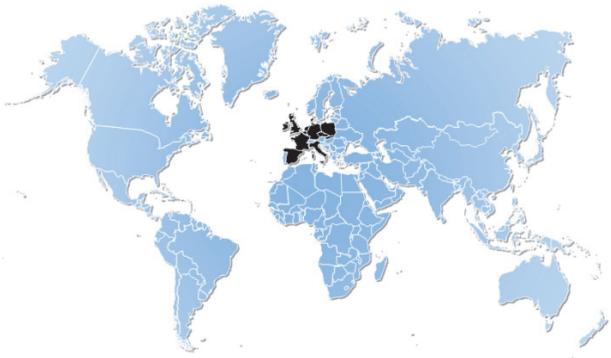


Fig. 3. Geographic scope of the market in butter in 2014 according to the E-H method (regional).

Source: own study.

### Summary and conclusions

Internationalisation is a complex economic phenomenon and can be considered at three levels: macro-, meso- and microeconomic. Internationalisation can be analysed in two dimensions – within the intensity of involvement in activities abroad and within the geographic scope of these activities. The second dimension within the framework of the mesoeconomic approach is related to determination of the geographic boundaries of the market. Determination of geographical boundaries of foreign expansion of a given market also allows for the proper selection of methods to solve other research problems.

Application of the Elzinga–Hogarty method allowed identifying the directions of changes in the spatial scope of the butter market in Poland in 1990-2014. It can be assumed that until Poland's accession to the EU, the market in butter had a domestic scope, and then it increased its scope and became a semi-global market. In turn, in the second decade of the 21<sup>st</sup> century, there was a concentration of directions of trade exchange and the scope decreased to regional. Therefore, it can be concluded that in the analysed period the processes of both internationalisation and de-internationalisation were observed on the butter market in Poland.

In addition, based on the analyses carried out, it can be assumed that the Polish butter market is connected to the international market – especially within the European Union countries. It gives, e.g. the basis to postulate that the policy and market and trade regulations for this market should be shaped taking into account the supranational level.

It is also worth noting that the results obtained may be influenced by the assumptions accepted in the Elzinga–Hogarty method. Firstly, according to the suggestion of the method's creators, the threshold for meeting the LIFO and LOFI tests was set at the level of 90%, however, the adoption of lower thresholds would result in narrowing the geographical boundaries of the butter market. Secondly, the starting point for the analyses was the dairy sector in Poland. Beginning the analyses from a different starting point (another country) would probably also change the results obtained. In the context of the above limitations of the Elzinga–Hogarty method used, it is worth carrying out analyses of internationalisation of the butter market based on other approaches, e.g. indicative or qualitative, as part of further research.

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## INTERNACJONALIZACJA RYNKU MASŁA

**Abstrakt**

*Głównym celem artykułu było określenie zmian zasięgu geograficznego procesów internacjonalizacji rynku masła w Polsce z wykorzystaniem metody bazującej na przepływach towarów (metoda Elzinga–Hogarty). Bazując na danych wtórnych FAO i IERiGŻ-PIB, stwierdzono, że rynek masła w Polsce do 2004 roku miał zasięg krajowy, następnie po integracji z UE zasięg rozszerzył się do semi-globalnego, po czym nastąpiła koncentracja ekspansji w ramach form handlowych do krajów UE i zasięg geograficzny zawężił się do regionalnego. W 2014 roku rynek masła obejmował Polskę oraz 11 krajów będących członkami Unii Europejskiej. Tak zdefiniowany rynek masła charakteryzował się produkcją na poziomie 3361 tys. ton, konsumpcją na poziomie 3292 tys. ton oraz eksportem i importem odpowiednio na poziomie 317 i 238 tys. ton.*

**Słowa kluczowe:** zasięg geograficzny, internacjonalizacja, rynek masła, metoda Elzinga–Hogarty.

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